

# Is cutaneous application of cyanoacrylate a factor which influences the incidence of postoperative infection in surgical colic?

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## INTRODUCTION

Cyanoacrylate is a synthetic biomaterial fluid, which uses the chemical properties of cyanoacrylate monomer, polymerizing rapidly in the presence of water and solidifying, strongly adhering to tissues. This is used as a “skin suture” or suture reinforcement. In humans it is being used as a new option for wound closure in plastic surgery, dentistry, emergency and even in children. To our knowledge, no information is available on the use of ethyl-cyanoacrylate in horses.



## OBJECTIVES

To assess the application of ethyl-cyanoacrylate on surgical incisions as a factor influencing the incidence of post-colic surgery infection in horses.

## MATERIAL & METHODS

### Retrospective clinical study

- ❖ **Animals:** horses (n=47) that had a exploratory celiotomy for colic with the application of ethyl-cyanoacrylate or not in the incision between January, 2014 and December, 2015.
- The evolution of these horses incision (normal or infected) was assessed during hospitalization and follow-up at home after hospital discharge.
- Incisions were classified as “normal” (no complication, only edema) or as “surgical site infection (SSI)” (with purulent drainage after 48h).
- The horses were included if (1) were operated of surgical colic; if (2) they had survived during the post-surgical at hospital.
- The risk factor evaluated were: extrinsic intraoperative (application of ethyl-cyanoacrylate (Loctite®)).

**Study design:** retrospective case series

### Statistical Analysis

The variables were statistically analyzed using (R 2.12.1.ink to Windows) the  $\chi^2$  test to qualitative variables.  $P<0.05$  was considered a significant value.

## RESULTS

- ❖ Of 47 horses, 5 were infected. From 19 (40%) that had application of ethyl-cyanoacrylate only 2 (10.53%) developed a SSI; and from the other 28 (60%) that did not have application of ethyl-cyanocrylate only 3 (10.71%) developed a SSI.
- ❖ In our analysis data p-value is 0.6444 - p-value  $>0.05$  - can not be considered as a significant value, so therefore the use of ethyl-cyanoacrylate and the infection are independent variables.

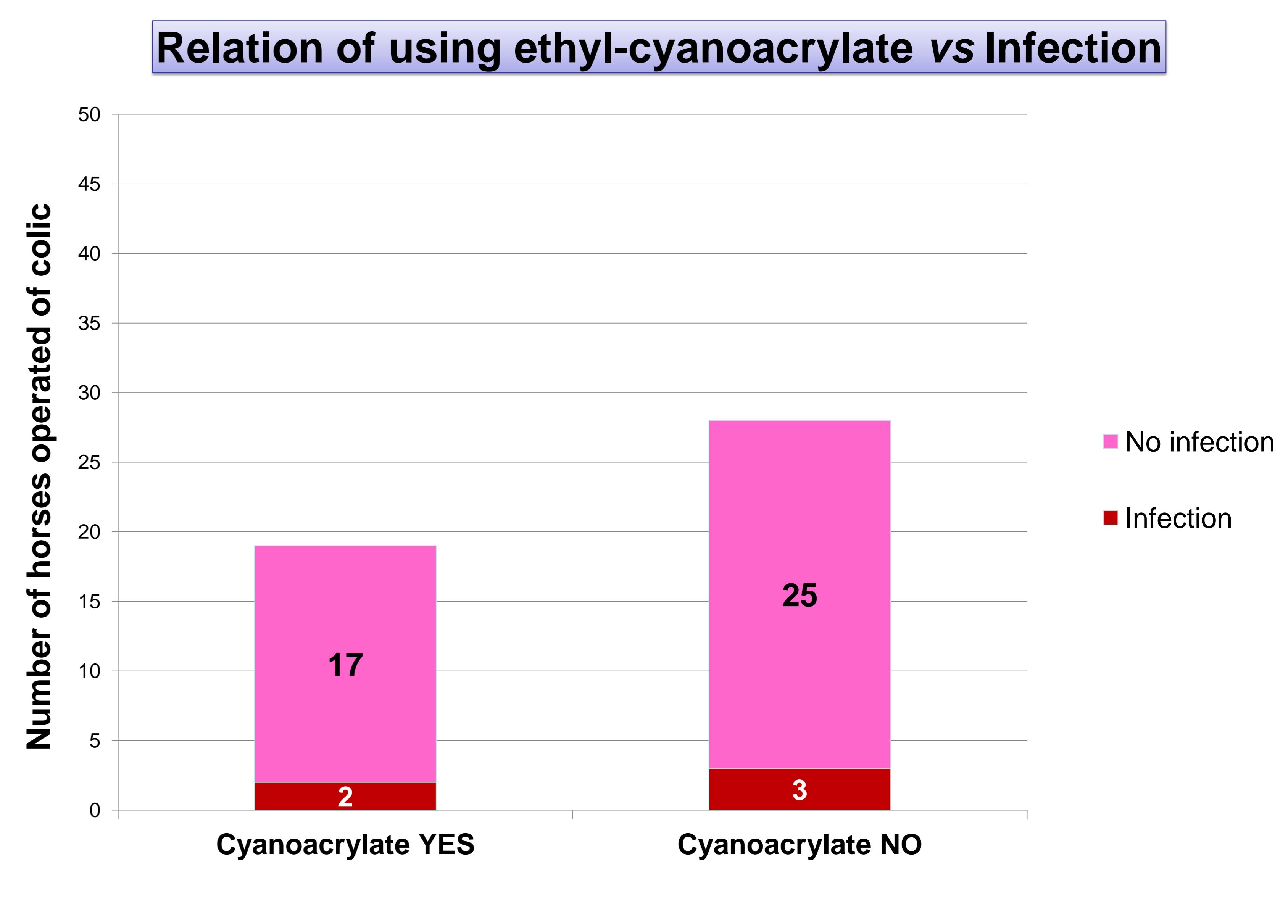


Fig 1. Relation of use or not of ethyl-cyanoacrylate vs. infection or not of the horses operated from colic.

## CONCLUSIONS

The application of cyanoacrylate on surgical incisions has no influence (that not decrease) on the incidence of post-operative infection in equine surgical colic.